Atty. Dkt. No. 045413/0110

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Jonathan A. ELLMAN et al.
Title:	PHARMACOPHORE RECOMBINATION FOR THE IDENTIFICATION OF SMALL MOLECULE DRUG LEAD COMPOUNDS
Prior Appl. No.:	09/277,461
Prior Appl. Filing Date:	03/06/1999
Examiner:	Unassigned
Art Unit:	Unassigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, Applicants respectfully request that the following amendment be entered into the application.

In the Specification:

Please amend the specification as follows:

Page 1, line 11, after title insert –

This application is a Continuation of Serial No. 09/277,461, filed March 26, 1999, which is a continuation of Serial No. 09/049,754 filed March 27, 1998.

In the Claims:

Please cancel claims 1-33 and replace these with new claims 34-57.

34. A library of candidate target binding fragments (CTBF's) each CTBF being a small organic molecule and having a linkable functional group (LFG) or blocked form thereof (BLFG), wherein the LFG or BLFG contains a linking group (LG), the LG being a disulfide group.

35. The CTBF library of claim 34, wherein each CTBF of the library further contains at least a second LG selected from the group consisting of an amide, secondary amine, disulfide, sulfonamide, ureido, thiourea, carbamate and sulfonamide.

36. The CTBF's of claim 35, wherein the second LG is an amide.

37. The CTBF's of claim 35, wherein the second LG is a sulfonamide.

38. A method for screening a library of small organic molecules for one or more candidate target binding fragments (CTBF's) that bind to a target biological molecule (TBM), each CTBF having a linkable functional group (LFG) or blocked form thereof (BLFG), wherein the LFG or BLFG contains a disulfide linking group (LG), the method comprising:

(a) contacting the TBM with individual members of a library of the CTBF;

(b) detecting or determining which CTBF's bind to the TBM; and

(c) selecting CTBF's that bind to the TBM.

39. The method of claim 38, wherein a functional assay selected from an ELISA assay or an enzymatic assay is used in (b).

40. The method of claim 38, wherein each CTBF further contains a second LG selected from the group consisting of amide, secondary amine, disulfide, sulfonamide, ureido, thiourea, carbamate and sulfonamide.

41. The method of claim 38, further comprising linking at least two of the selected CTBF's or analogs thereof.

42. The method of claim 38, further comprising converting the selected CTBF's to a structurally related analogs thereof.

43. The method of claim 38, further comprising linking the selected CTBF's to a second compound.

44. The method according to claim 38, wherein the TBM is a protein.

45. The method according to claim 44, wherein the protein is a hormone, cytokine, chemokine or receptor.

46. The method according to claim 44, wherein the TBM is an enzyme.

47. The method according to claim 46, wherein the enzyme is a protease, phosphatase (dephosphorylase) or kinase.

48. The method according to claim 38, wherein the library of CTBF's comprises small organic molecules with molecular weights of less than about 1000 Daltons.

49. The method according to claim 48, wherein the library of CTBF's comprises small organic molecules with molecular weights of less than about 500 Daltons.

50. The method of claim 38, wherein (b) is accomplished by an *in vitro* biological assay.

51. The method of claim 50, wherein (b) comprises an ELISA assay.

52. The method of claim 38, wherein the library of CTBF's for binding to a TBM comprises at least about 100 different CTBF's.

53. A library of candidate target binding fragments wherein each fragment is a small organic molecule and each member of the library is represented by the formula:

$$CTBF\text{-}S\text{-}S\text{-}R^8$$

wherein R^8 is

a straight chain or branched alkyl of 1 to 10 carbon atoms that is optionally substituted with up to five groups selected from the group consisting of halide, alkyl, aryl, heteroaryl, carboxy ester, carboxamide, amino, *N*-acylamino, alkoxy, hydroxy, mercapto, phosphono and sulphono; or

an aryl or heteroaryl that is optionally substituted with halide, alkyl, aryl, halide, heteroaryl, carboxy ester, carboxamide, amino, *N*-acylamino, alkoxy, hydroxy, mercapto or phosphono.

54. The library of claim 53, wherein R^8 is a straight chain alkyl of 1 to 10 carbon atoms optionally substituted with amino or hydroxy.

55. The CTBF of claim 53, wherein each CTBF of the library further contains at least a second LG selected from the group consisting of amide, secondary amine, disulfide, sulfonamide, ureido, thiourea, carbamate and sulfonamide.

56. The CTBF of claim 55, wherein the second LG is an amide.

57. The CTBF of claim 55, wherein the second LG is a sulfonamide.

REMARKS

Applicants respectfully request that the foregoing amendments be made prior to examination of the present application. Applicants look forward to receiving an Office Action on the merits of the case.

Respectfully submitted,

Date December 28, 2001

By _____

for Bernhard D. Saxe 44,250
Attorney for Applicants
Registration No. 28,665

FOLEY & LARDNER
Washington Harbour
3000 K Street, N.W., Suite 500
Washington, D.C. 20007-5143
Telephone: (202) 672-5300
Facsimile: (202) 672-5399